

THE BUTTERFLY FAUNA OF A YELLOW PINE FOREST COMMUNITY IN THE SIERRA NEVADA, CALIFORNIA

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Below is a list of butterflies I collected in the vicinity of Carnegie Experimental Garden, 4600 feet, one mile east of Mather, Sierra Nevada Mountains, Tuolumne County, California. These were collected in an area of about one square mile during three summers: June 19 to September 6, 1964; June 14 to August 9, 1965; and June 20 to September 9, 1966.

The area is a Transition Zone with a Yellow Pine Forest plant community; *Pinus ponderosa*, *Libocedrus decurrens*, and *Quercus Kelloggii* are the predominant trees. Other indicator plants present are *Abies concolor*, *Ribes Roezlii*, and *Ceanothus integerrimus*. This plant community can be subdivided into micro-habitats of wet and dry meadows, stream banks, forest glades, and open and tree covered benches and slopes.

PAPILIONIDAE

Papilio zelicaon
Papilio rutulus
Papilio multicaudata
Papilio eurymedon

Polygonia faunus rusticus

Plebejus saepiolus

Pieris protodice
Pieris rapae

Chlosyne palla

Plebejus icarioides

Neophasia menapia

Phyciodes mylitta

Plebejus acmon

Euchloe creusa hyantis

Phyciodes campestris

**Ecres amyntula*
Philotes battoides intermedia

Anthocaris lanceolata
Euchloe creusa hyantis

Euphydryas chalcedona

Philotes enoptes

Euphydryas editha rubicunda

Scolitantides piasus

**Speyeria zerene*

**Speyeria callippe inornata*

Glaucopsyche lygdamus behrii

**Speyeria hydaspe*

**Speyeria mormonia arge*

Celastrina argiolus echo

**Speyeria cybele leto*

DANAIDAE

Danaus plexippus

LYCAENIDAE

Habrodais grunus

HESPERIIDAE

Coenonympha tullia californica

Atlides halesus

**Amblyscirtes vialis*

Cercyonis silvestris

Mitoura spinetorum

Ochlodes sylvanoides

NYPHALIDAE

Limenitis lorquini

**Mitoura johnsoni*

Atalopedes campestris

Adelpha bredowii californica

**Mitoura nelsoni*

Polites sabuleti tecumseh

Vanessa atalanta

Incisalia augustinus iroides

**Hesperia harpalus yosemite*

Vanessa virginiensis

Incisalia eryphon

Hesperia juba

Vanessa cardui

Strymon melinus

Heliopetes ericetorum

Vanessa carye

Satyrium californica

Pyrgus ruralis

Junonia coenia

Satyrium saepium

Pyrgus communis

Nymphalis californica

Callophrys dumetorum

Erynnis persius

Nymphalis antiopa

Lycaena arota

Erynnis lucilius afranius

Lycaena xanthoides

Erynnis propertius

Lycaena editha

Thorybes pylades

Lycaena helloides

**Thorybes diversus*

Leptotes marina

Epargyreus clarus

The species that Garth and Tilden (1963) consider restricted to the Transition Zone in Yosemite National Park are starred (*); only *Colias occidentalis chrysomelas* was not seen at Mather of their 10 species listed as indicators. 12 of 21 species they consider indicative of the Upper Sonoran Zone are also present at Mather. This may be partly explained by the fact that the Upper Sonoran Zone is about one air mile to the north so that some inflow of species might be expected. Also, some of these species breed in the Transition Zone as well, notably *Incisalia augustinus iroides*, *Lycaena arota*, *Thorybes pylades*, and *Epargyreus clarus*.

All of the 33 species listed by Garth and Tilden (1963) as occurring at Mather were duplicated in this study except *Speyeria egleis*. They do not list *Speyeria mormonia arge* for Mather, which is abundant in July in the meadows. The *arge* may have been mistaken for *egleis* since the two closely resemble each other.

Some species were conspicuous by their absence at Mather: *Parnassius clodius sol*, *Polygonia zephyrus*, and *Satyrium sylvinus*. The food plants for all three were abundant. Earlier collecting in the year may produce such species as *Anthocaris sara* and *Incisalia fotis windi*.

Emmel and Emmel (1963) found 74 species in a six square mile area at Donner Pass, Placer County, California, between 6900 and 8300 feet. The zones included Transition, Canadian, and Hudsonian. It is interesting that 48 species (64.9%) are found both at Donner Pass and at Mather, and that the family composition of both places is so similar:

FAMILY	NO. OF SPECIES		% OF TOTAL SPECIES	
	M*	D*	M	D
PAPILIONIDAE	4	5	5.4	6.8
PIERIDAE	6	8	8.1	10.8
DANAIDAE	1	1	1.4	1.4
SATYRIDAE	2	2	2.7	2.7
NYMPHALIDAE	20	20	27.0	27.0
LYCAENIDAE	25	28	33.8	37.8
HESPERIIDAE	16	10	21.6	13.5
totals	74	74	100.0%	100.0%

(*M = Mather, D = Donner Pass)

BIBLIOGRAPHY

- EMMEL, T. C., & J. F. EMMEL, 1963. Composition and relative abundance in a Temperate Zone butterfly fauna. *J. Res. Lepid.* 1: 97-108.
- GARTH, J. S., & J. W. TILDEN, 1963. Yosemite butterflies. *J. Res. Lepid.* 2: 1-96.
- MUNZ, P. A., & D. D. KECK, 1965. A California flora. University of California Press, Berkeley and Los Angeles, 1681 pp.